## NAGAL 30 STOARTS OF JAPAN

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(SZ)Inventor: MIZUNO YOSHIHISA (S2)Date of filing: 17.05.2000

KASAI KAZUO SUZUKI YOSHINOBU

USHINO TAKUHIRO

## (54) INJECTION MOLDED FORM WITH FINE PATTERN TRANSFERRED IN HIGH

YOARUOOA

.guiblom fine pattern carved on the inner surface of a mold cavity on a molded form by injection with high heat resistance and high moist heat resistance by transferring in high accuracy a PROBLEM TO BE SOLVED: To obtain an injection molded form usable as an optical material :tosttadA(73)

comprising the above cyclic olefin resin and a specific hydrocarbon resin. optained by injection molding of a cyclic olefin resin or a thermoplastic resin composition SOLUTION: This injection molded form with a fine pattern transferred in high accuracy is

(A) 雜 公 指 詩 關 公 (a) (9	I U) 竹褙梯圍本日(6I)
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(P2001-323074A) ₩\$001-32304 **日条幣公園出茶幹(II)** 

(43)公開日 平成13年11月20日(2001.11.20)

内式会な時代一て大工 トエジ それ器11目下2歳薬及失中器70歳

>強:7月其殊長

		(1)	非 西斯	各種聚(ST)			
		内林会主教小	-LYI				
トエピ	H12番11	目下名數學因失	中都京康				
		料	第 木橋	各種類(ST)			
		内古会无利尔	-LYI				
rxc.	<b>台松器III</b>	目下S數學因失	中都京東				
		V	<b>秦 秦</b> 本	养现発(ST)			
	号12器11	到TS 數據因史	中群京東		(71.2.0005) 日71日 (312) 平		日蓮出(22)
	78	会た林バーでよ	erta				
		8.	1700000	人屬出(17)	終載3000-14942S(P2000-14545S)		- 条離出(IS)
OH SI	or (\$	2 層の距水離	宏簡末	永龍金書	***************************************		
			00 3	B 2 9 K 45		00:9V	# B 2 9 K
			00/9	G9		00/99	
0 2	410		20/	C08F 23		20/15	COST
90	4 E S		91/9	B 2 9 C 48		91/91/	B 2 8 C
T Z	4 F 0	CES	00/9	C081 P	CEZ	2/00	C081
160	1-1-1-6			1.3	Ex THE LETTER		TATRIC(10)

## 朴亮気出権される写録高なくーやれな職権 【神子の世紀】(43)

構造株別機力型下売るなる小品商家水力気の宝井と設備 てトてマモが築むらた左部勝くトてマモ光票【祭手光報】 多州地域出限な銀行用地プレム存材学光の心臓は対燃器 後、対機権、代よコミニる生きで議論でよコ状態出限を **マーセパン解機された地域はカウートデコッキ型金【関機】** [绿蓬] (LS)

高市ンーやハク融橋、クスコムこるを発力出権フィ利を

"各份支利班太阳依久小名草源

あずのよるで発展を対象が最出限されらを減ず支援的である。 ーをいる機関でなる自体質を配置機関膜基準回転でなり 小計略深水小県の利因で監察で不成00002社量千代 は平量重算数ベイキスリホ(8) ひよは護随封壁下禁条 マトワイ大が駅(A)よど7ま 、路路登壁回路条マトワイ 大水梨(A) 、北神発本【母手のかふるで契頼多酸縣】 [2000]

。6 支担場 3 利利。成別、限されて写演論なくーをいな 腓橋コ面秀、交割河印動フリス体材学光、J 特別多(社 売品 (利売用) 到付売るで百つ転加価値制度に無条 ウ本規模、北内目の子、うつよされる流コ泉管を囲転立 それの揺れ、北限係本【数點るやろそよし光神仏世終】 [£0001 。なっあな説

同いの用類の小杯材字が、代表が翻画の外交送するよう 木神や土地においた。また、これらの協能は副党性や電水 るヤ草漢高、/ 無社ヤイキャケスマぞいの激素小固体材 3.対検系、社るパブパルらい肝やとなる機能イーネホーなり るものがある。これらには、メラクリル制能あるいはボーラの は、一体化して2輪の敗化水薬基を形成してもよく、 多面に数据なパターンを形成し射出成形により転寄させ 、プリムおれるや水綿、多られこ。なっもも観測の卦火 描さっいるかなおのベーやバンから瞬中、コユな熱熱や 野工、より丁光陽中マーセハ、クユノム要金を消費工庫な 繁散了裏高口常表は7階段的制機、Li並衣のみれこ、る いておら出来なまでのとなく行う傾印が用き設置型外勢 難子またいる 広路代集、蒸、る を限印 タマーやい し 市道 きイスシン、るや所砂コや動機を画楽、たにするを声味き V一尺//文雕版习曲表の科环军法、来等【密表の来录】 [0000]

#4560786.

経を利引が出限される表達に取得的なペーやパ 、九巻二 **台連動機 、台連機 、ウエントころや用助さがみ継続機会** 壁に無糸くトてマト大枠の気得む含まは適け窓に無糸く トワイトが課題として、評して、計画の本のの出来がなって、「学演 高)で速了適階高なパターンが高階度で転写く高 コ容科科学光コ主 、上神教本【禮代謝対るや海の世祭】 [TOOO]

【地路な職業の地条】

**料纸油出帐**(0 施店コ1段末稿るする監督をくこるす青者を基計級の上 **以政劃 [ 小園園 計野戸熱条</ト
マイト大駅 ( 2 東木龍 )** 。料纸规

出株されるギ津予測耐高やベーやハな繊維るなアノ張海 全解減廉温度計2型中景るなるの温度条本(1/3g(0本間)) 監 常7 不以0000公站量下松均平量重算拠く4キスリホ (B) ひよは離膜対盤距離条くトてイドが架(A) お立 ま、猫脳対撃巨然深くトくく下が歌(A)【[印来艦] 【田澤の末裔古科】

表。基本的研究、上記(A) 維化オレフィン米集型型 50 おいち、H\*4は尿薬児中型1との原化水溶集、形 ま これたのによるやない基理が、いっま様であるからのもる で许る登場機の過去製品等達入でない高等的知識機器 壁印点るれる時、上は料量単宝符るで百多差計あるれる表 た、特定単単体のうち、式一(CH2) n COOR® で ま、るちてかるこる村等をのさる低す(11対)ませ

ころり、m+pか0~4 (更に好ましくは0~2、物に 機器の€~044、機器の€~04m、J示多数投資の 代以基業水小規ひよは千瀬業水よいCーよく〉なぞの \*A VAは 48、プロペン基場市の耐一社会生干別案本格。 40 CHESTAIL - I OOSERCASTA CEO, HE BED'H 柱、上記一般式(1)中、R1およびR3 が水素原子ま プリス州最単宝枠 / J 生後 < 朴量単宝符 > 【8000】 \*\*\*\*\*\*\*\*\*\*\*\*

いてし存名多基計画の土以政暦 1 31中直朝千代、844次 職 ( ( A ) 既分 ) は、射出成形の加工性を向上させる難 開業ストレイネル主席をから得られる時がプリンスとは観光 の整数であり、plaoまたは正の整数である。〕

重集なたよう場構造を形成してもよい。mは0または正 A またはR2 とR3 またはR1 とは互いに結合して、 を繋なっていてもよい。 R: とR: またはR: とR: 14その他の1備の有機基であり、それぞれ同一であって ↑1 、基業木出現の0 「~1 歳業規 、干潤いでロバ、干

【6007】(式中、R1 小R は、それぞれ水繁原



11311 [9000]

和台重

共財団の3所合当計書合語連二時國小3和董単気計 ② 料台薫(共) ぶつ肌温潔木 、頻ぶつ3)製りま これの図イヤモヤルデーセで多朴合葉(共) 駅間路箱

料合並底落案本(0.軟合並 (共) 段限這兩 ◎

**朴合重共駅間の3本量単む合重共3本量単宝計 ◎** 料合連取網の( , Cい3 , 料量単

安村 , 不以) 和量単るなちます(1) た婚一流 ( O OI 。るちつれること科を多利合意で示いる~の

端下、よりブリム(を強と代流(A)不以) 撤廃計墜下禁 承
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大</ 開発本<諸陽対壁戸熱条マトでマ本状類:代為(A)> \* 9.4.168271開業 2.116~78社

表別の実施の形態】以下、本発明の熱可塑性樹脂組成 [5000]

る人がつのもも世界をおきるものである。 **する効料をとこるや存金を基性機の上に取解する場合的**  4x0x11C(14-8, x374-E-[01,1], 0,5 1.0.4.4) 04361744X0X4CV-8 17.10] -3-K7EV, 8-7NADAKHFF5V . 4.11 .0 . A . D ] 06364 FOKAC-ロボキシビシクロ[2, 2, 1] ヘブトー2ーエン、8 TUKNCETN-3-0KNCU1-3, 2, 2, X ルオロメトキシビシタロ[2, 2, 1] ヘアトー2-エ 4-3-0x1/6/1-9 'S 'S 'XI-Z-4 10 x (11)21x40x41x) E340[2, 2, 1] ~> 3-9 'S-0045-9 'S 'XI-8-12V[I 900-5, 6, 6-109NADES90[2, 2, 041/C61-9-1/201-051-041/C61V -9-0x4(CS-9'9'ST-Z-14VII'Z 6, 6-EX (1991/ADXADX+1V) ES90[2. -NEIDENCES-S-DENC-S "KI-Z -1,2)1,40x41/E590[2, 2, 1] 121-2-0141/CU1-9, 5, 5, XI-S-17/11 30 6-EX (19)NYDXFN) EVOD[2, 2, 2. I] VAL-2-1X' 2' 8-321/40-5, -6, 6-87 (11) 71/40x41V) Ky70 [2. 12. 2. 11 NTH-2-IX, 5, 5-57NAD 063 (44X0K1(4) X+644-9, 6 DESPD [2, 2, 1] ATH-2-1X, 5, 5, FNCE14-9 '9 'S 'S 'XI-2-14~[I 5, 6-19x (7N\*D\*+N) E>90 [2, 2, NADES DO [2. 2. 1] NY 1-2-1X, 5, [3, 2, 1] NT-2-IN, 5, 5, 6, 6-197 045714x041/611-5-1/4x-5 "XI 08 >1/40×4/1) E>20[2. 2. 1] ~>1-2-[2, 2, 1] ~7+-2-1×, 5, 6-EX (h) DOCA (NEXDENCIN) XA-6 '5 'AI-5, 6-59440E590[2, 2, 1] AT-2 7NADES 20 [2. 2. 1] NTH-2-1X, ENDE [2, 2, 1] NT-2-17, 5, 5-5 2. 1] NT-2-1X, 5-XY97KHITH トーマーエン、5ートリフルオロメチルビシクロ[2. IN 8-NAUX+NEWD[2, 2, 1] ~7 10 X, 5-71/30EV90[2, 2, 1] AT1-2-370 [4. 4. 0. 12,6 . 17,10] -3-47t [2.2.1] NT-2-1X, 8-7x=19 14524=14-5 'AZ+X-E-[011] - 97 1.0.4.4] 0436147794x-8, X エースーイベー [2.2.1] ヘナト-2-エ 8 . VAELXV - 8 - [ TI,510 , 8,50 , 81,61 I ' 81'11 1 ' L'11 ' O ' 18 ' 8] ELECTON' X 4 C \ X - A - [ 81,110 , 7,50 , 81,51 ] , 71,81 745, 1795/10 [8, 7, 0, 13,8, 1

-E-[0.171. 0.12.5 19.12, 08.13] -3-7-7-14 44, 0. 12.5, 17.10] -3-6 DOGGGY X166404366816X64 、ベタギャロウシティデーターペデルチエーシ、ベタデ 9) 499 EKD + 29 V. X + 14 F + 359 D K [4. 4. 0, 12.5, 17.10] -3-474×, 5× ログンとイナリニホイなンチイとーロー8ーバキ× [4, 4, 0, 12, 0, 17, 10] -3-47-4×, 8-ログンでイデルニホルカンチホロてゲトー8ーハキス [4, 4, 0, 12,8, 17,10] -3-KFEN, 8-ロインモイデルニオルなどを注ロてーロー8ーハキ× [4, 4, 0, 125 . 17.10] -3-172x, 8-04%E1=N=X114%+1I-8-N+X-8 90 [4. 4. 0. Ists . It.10] -3-47ty. シピイテルニホルセンチイメー8ールキメー8 ノンタデ 7-5-50171 . 0. 12.0 . p. 10103-3-K ルニホル在とディアーカー名 、マタヤキーモー Lotal . 2.1 .0 . p . p] 0 64 6 4 FN= hAA 12.6 . 17.10] -3-47-65, 8-4770##5 .0.4.4]ログンでイデルニホルなどを中ロて一の [4. 4. 0. 1s.e . 17.10] -3-k7tx, 8-ロウンモイテルニホルカンキイエー8 、マナディー E-[01,71 , 0,11, 0 , 1,0] 1748 + 174= [2.2,1]ヘアト-2-1×、8-メキャカルボ [5. 2. 1] VY1-2-IN, 5-57/E590 ロセンタルニホルセンキイメーラールキメーラ 、と エースーイで、[1,2,2]ロセミサルホルイン KYY0[2, 2, 1] ATH-2-XX, 5-X14 END[2: 2: 1] VAL-2-IN P-X-IN 14x-2, 24774-E-[ 8121.0.4.4] 19:12: 08:13] -3-4/2/4/2 [81:80 :21:6] - 4.21 .0 .4 .7 ] ¤4.64.7 . 4.4 + 4.24 b-[81.60 . 7.50 . 8.81 .1 .2 .3] 0454 [4. 4. 0. 12.6 . 17.10] -3-K#EV, KV [5. 2. 1. 02.8 ] -8-F-8/, F-1957 290 [2.2.1] AT-2-4TA [1.2.5] 068 としては、次のような化合物が挙げられる。と **料量単安群る水さ合表字(Ⅰ)先像一張上【9000】** がは樹脂組成物が得られる点で好ましい。 **下飛い高の裏監将源太では、北崎量単宝符るあ**了 1 社m たていることが好ましい。また、一様式(1)において ち合裁コ千頭素塊の一回3千頭素塊かJ合替が基卦函る ルキル基が上記の式一(CH2) n COOR5 で表され しくは1~2、特に好ましくは1である。特に、このア ま状34 、> Jま状4356854~1 お魔業級の基小 キハイ結と、>フま様なろこるあつ基ハキハイル 5月よ 好ましい。さらに、上記一般式(1)においてR! また プ点るAT暴容体施合の多、北林量単宝符るATO社n コるち、>し生性ブのるな>高社遺版特謝人で社の終別 群間随到空世盛るれる時、3年103145小立動のロ、中

らんかでんをかる。また、nは進常の一ちんかある

たくキイ×-8-4キ×-8 、3時、>Jま刊7点る立 るのもされる熱は登場を表現を表現を表現を行るものと 的終録 、 i l s. i z s. i

(水六な料を代流(A)<料量単型合連共>【IIOO】 よりオレフィン系製造が得られることから折ましい。 状態され過ご計高時の3代版(B) よいくサディーモー (01,71 . 0,51 . 0 . p . p) 1742E47M=#N

そシス無数は、(a) W、MoおよびReの化合物から そKのこ。るれれ行ぶ不古在の禁嫌<とくまや k まねえ合 重原間、ブバは51世発本<製熱合重算機>【SIOO】 は、勧挙を任の大きい関係の原科として有所である。 内心高来水の料合重期間るれる料は合称の2、7 15 、いよるアサら台車原稿を本量単宝好371五年の32~ アリル系素水小泉店麹不む含含合苗車二間条第一条現13 OC 職主のソウンネイネハホ小しいホ、村合重共ンエンの共非一 マイキエ、朴合重共くエジをてーマイキス、マイてVト がましくは5~12である。更にポリプタジンとが コインの散業数としては、4~20が好ましく、26に 14064 , 3557435.8445V1 CURDOVO スなくエジャインログジジ 、マネルホイバー・ユーイデリ \*\* [5. 2. 1. 02.6] -3-747, 5-14 (14 , Y7 ( \* D ( 2 , Y7 T ) D ( 2 , Y7 Y ) D ( マ、マヤワロでく、よけプリンの料具の料量単型合連元る A 各世典与合敬のこ ・(イえよブサら合連共駅開き3本量 01 単独合連共3本量単宝計鑑と、ないよようから合連原稿 う越単多本量単宝符の第1、上づいおお料工合連製係の

用動き桝合小されら示コ酵公号7F20p2-1平開料 それで、「成イコテル類、アルコール類、ケトン 外の代類(5)る本字所成落。る考学なるこる科学全群 L1Hなど特開平1-240517号公報に記載の化合 1.5 (C2 H5) AIC12, XFN77NE445, (C2 H2) 2 VICI' (C3 H2) 1'2 VICI MR L C(4, n-C, H, Li, (C, H, ); Ai, 朴具の代類(d)。るきではよこる科学多術合外の類別 40 s . ReOC1s など特徴平1-240517号公報に Recykesmontametria, wol6, Moc1 まい4る木oM、W☆芒酸ブJ3代類(s)【E100】 \*117926826924

芝加添売(○) 附加添の返倒、これなごるの高を計品の禁

無い合称のこれを。るるで製練るならかが合語の3番1

よろうなやされお置るへのもるすする合語条本一条元結

とよど4るA合語条列一条ASECOCI3327でで、プロ

あった。 (MXはSi, Sn, Pbなど) の化合物であ

Vittv4&& (当なって、i Tおた内) 条元進AVI、(当

(MALIMS, Caなど)、IIB新元素 (MALIZa,

業売載AII 、(となど、ka 、i 」はおき内)業売並AI

表
単限周のヤンミ干(d) 、3種 I d 3 > なやむれれ線

7:10] -3-KFEV, KV95901(7, A. O. 1 50 +522856. 1 . 8-11 .0 . p . p) 06464 + N+x-8 , V 390 (4, 4, 0, 12, 0) 12,10) -3-472 6148484X-8, 8448-E-10171, 82 1.0.4.4) 04/6174=444/84 4.8.1 - 44×-8、そその本量単気約のみな」[0100] 17.10] -3-ドデセンなどを挙げることができる。 +5.51.10. p. p. 10166647 (N=#NAV# 4IDANCU1-2, 2, 2, 2-NANATULA 7540 [4, 4. 0, 12,6 , 12,16] -3-472 47 (N=XNX (\* 4 I D X N C U 4 - S , S , S) [4, 4, 0, 12,8, 17,10] -3-472x, 8-043647 (NAXOKNCU4) x3-6,8 12,6 . 17,10] -3-472x, 8, 9-3700-. 9 . p. 106464404NCU4-9 , 9 , 8 0. 12.5 . 17.18] -3-FFEV, 8-700-. P. DI 06364FNFX0XNCU4-6-NS 04-081014(64V-8-014(66-6'8 CIG. 4. 0. It's . I'll | -3-K7-EV. 9447 (N+XOKNC(1) X3-9, 8-N+ ※ C q ′ H g など) 、 III B 族元素 (例えばB, A l な IDKNC6VN-8-DKNC-8, V474-E-[at. 1] . a. 1 . 0 . p. 10626144 + to TOKNEGYN-6-041/201-6 ,8 ,8 ,4 3340 [4, 4, 0, 12,5 , 17,10] -3-17th 14474X0KNCU1-6-0KNCU1-6,8 [4. 4. 0. 12.0 . 17.10] -3-K72. 8, ロインモイテルキメロネルてリイーセーロネルてい 0. Ire . Iria] -3-k7+x, 8, 8, 9-1 . P. P. DO CE OF (NEX DX NC (14) XX-

17:10] -3-K#4X 8, 9-57K#0-8, 9

KN(CU4) X3-9, 9-0KN(CU-8, 8, X4

FX-E-[01,11, 0,12,0 , 1,10] -3-4-61

7 (N+X0KNCU4) X+E44-6, 6, 8, 8

72 [4. 4. 0. 12.5 , 12.10] -3-17+2x,

EE140K1(CE14-6, 6, 8, 8, 8, KATA-

E-[01,7] . 0.11.0 . 4. 6] 042644 (4)

4x0K1((4) X(14-6, 8, 8, x474-8

1256 , 12,10] -3-47-4×, 8, 8, 9-417

.0 .4 .4] 06461446X0X4CU1-8-

4. 0. 12.0 . 17.10] -3-1775, 8-x+N

. p] 094647 (44x0x4CU4) x3-6

063617 (117KOKNC(11) X3-8,8

12 [4, 4, 0, 12,5, 17,10] -3-1774>,

でとそイテロネルでで-9,8, ペサディーモー[01,7

1 . e.st . 0 . p . p ] 0 6 2 6 1 7 0 k 1 C 2 - 8

[4, 4, 0, 12,5, 17,10] -3-KFEX, 8,

ロセンモイテルキエロネルてをソかー8 、ソサデド

[4. 4. 0. 12.5 , 17.10] -3-K72X, 8,

. 0.21 . 0 . p . p ] 0000 E 1 + (1/4 × 0

- (1490年)としてある。 (1400年)、後期共産金件を構成する不規和工業結合 合有化合物、総則は重合体よりなる(A) 成分を得るな かに、特定権権体との実施を内近い場合を予定 等合有化合物としては、例えばエサレ、、フロント 、ファンかとと認識策・フェン、が昇上くは2~8のオ
- ペアリインストリイルニホルなしていく。 Aでデイリスペーター ペントレイストルーター ペンタイニンド場を3つなパーティレストルーネー ペント スティース・ス
- ト て スホハニェ て じょう ス じょ 小二 ホ 小 な ロ オ ゴ ロ ロ 4 、A ヤニデル (イト C 木木ルニュ C ビイ) 大じ 1 ロロ OU LANCE (VICKANCE (U.A) EUADO ク、Aやその動物、ドリロのしまみかごされていきエマ /40065/4/64 T446N+L-11/4N/ に強くそ々木、ムウニミハアハキエリイトイーナイナア ハキサイハヤャニ、ムヤニミハアハキエじィ/ハヤャニ 緒マキても、よりブノム製麺条一台、ユオエ、るさづかくこ る科学多数無料的パサら程的に利用のソンアニタキ、ナ OT ミハア、カリン、、マホーカ、全置射線機関金貨のソカム ヤニテル、ムヤシロ、ハイャニ、金白、ムイシぞれ、紅 製菓茶一台不、よりプリム製製店高業木のこ。るさずれる こるで用気を心さるために用いるに関係を下の時台出す マトて4木の溶脈、よりブノム整動順遮深水 。 みかれげブ で、新ましくは20~180℃で作用させることによっ 氏、妖ましくは3~200気圧の水素ガスを0~200

次の05~出窓到は2、21028年200歳をおり0気

- く問題も含き問題対象で無条くトてイト状態、るす解解 QC 整戸無るす符を基金を 、3 るぎで高れ量千代台半量重算 別くイキスリ本の議職系業本小場のされこ [4200]
  - 機関、およびこれらの混合物が挙げられる。 条くエミをくといいは、「機能の」、よれいいしませい時で く、C9個額としては胎環療系が断ましい。これもの中 単げられる。また、 CS機能としては能拡張系が哲まし **分解台級のみれこびよは、温陽系本台並の終台出条連音** 表別聞ハニン、調閲条くエンタイクロペン、調酬合類系 る。これらの中では、 CS陶器、 CSM器、 CSA/ C9 5プセムニるや学者とな物施滋素水の構施法所よい4る
  - 出来くエミをく2つでく、部間条本合連共の網合出場香 表別鑑小ニ3/ソトワイト、濃陽系料合連の酵合分系裁 香衣刺逐れ二3、鎌陽条くエジをくかロりぐ、瀟瀾合却 表 5. 具体例としてはCS酸酸、CS類(CS類)C5条 つつらの利因で高常、大主、るなでのさの000~0 に対すしくは200~10000, 特に対すしくは30 F. ##L<41100~2000060789, 26 以100002社量千代8年量重度幾く4年太セホ より7 1 3 3 3 3 3 4 (B) M (B) 本 (A) (B) > 1 E Z O O )
    - 、るるう世見な人くそいの計工組の知る 技機構、Lint為助議機力型で熱な数のこ。&うでもむ含 多<護路集水小境:(代数8)>>の数原は流下、アメ 岷コ<(代表A)>、C & ケ州気路温路出壁再燃るなケ 人名多識商業木刈泉の宝件、るイプバを誘張記録会会T 182-01字解件、172152-6字開替お太凡、以当應海底流過 **封壁で飛条くトマイ大状線の宝料るい用与世界本<耐効** 財議協計壁戸療系
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      り 。るるで飲食されるのおの助酵の0
  - 00,005~000,02%(WM)量干代8年量重 ,000,001~000,8%(nM) 是千代科平级 の複数ペイキスリホるよど虫略で (OPD) ートCモヤ イアログマモビーエミーババヤ、おプリろ無千代の代流 (A) 立ま \*(4) 生物地とこる布でお (A) また (A) .0、より( Ani ( か ) 更計計画大し気軽ブ中ム小木口口 ( (0021) 本発明で用いられる(A) 成分の30℃の \*いつを操作くせそへ口でく、ささのみなご、ぎ
  - **すいよこる刊学多朴契称くヤロハの予びよは深水外**災 滋香表の零くくくき、くエハイ、くひく〉、厳くないて ロウンの客くサキハロウンハキメ 、くサキハロウン、説 マホルアの書くれ下、マナし、マサウ木、マサアへ、マ に使用される溶媒としては、例えばペンタン、ペキケ 為风合重共の3時合出存合合該軍二時鐵不3本量单宝符 <蒸客るも用めご場る得る場合連共麻鶏>【0000】
    - ましくは2~50、特に好ましくは3~20の範囲であ 様、土以Sで(V\(A) 丸の干頭 4 かここれてる すお コチ東ムヤンキバお率出の代海数域。るれるい用水路 [ **もろうなやかれお鑑られのもるやする合語業水ームやこ** ミハておいる各合誘系規一ムヤニミハてのぐ1 きょうで

- 止、削食性、動物性などの機能を付与する、金属海腸を 动模凤、J市业全部合小数市コ面秀、& 4-4-11-4 金銀橋の CND文との方法で素者し反射的止、耐食性、耐傷性など 線、集外線立とで硬化処理を行う、表面に無機物をPVD, 千事を而表 、知え例 、るちつかくこで就多野政工成次二 【0028】本领纳の報出成形体は公知の方法で表面に
- ある。この範囲内であると、パターンの転写性が優れ くは100~450, 特にがましくは150~400で ad/s) の時の落離粘膜か2とのは(n1/n2) nmの海路結成が1と、せん断速度10000(r Mat. 260℃において、せん路滅底10(rad/ が動熱し、なま。るみで数後で点のお工血を減っまた。 ~500C' \$6K#\$L<\!!! 15~180CO60 0 I I I I I フィエ状々(8 T) 現監号薄入ぐな プロブノム **|構造機能を表してくれた状態の気料でよる温度 投煙で燃茶べトて√木氷椒るい用ご提修本【7200】** . 6 55
- 30 を向上させる目的で滑翔などの窓前所を窓前することも おことによって安定化することができる。また、加工性 **专加添き当なべしェビアベンペキイメーターでキロギゴ** 一て、ペイエケマンペシーション・イージート、スカス内、所、 原衆蘇代景: くそと [イー木木ソロて (バニェ くくキロ RFETF , YEXNE T CUNTAKE - 18, 2--11'5'5, -3443-3'3, -3-1-1411 しょくハキメーカーハキヒーナージーも , 2 割入門 , 所 【0026】本発明の超階組成物には、公知の酸化防止 .(4見よアJ合 0C
- 加多とな子が機動業、子が増動す、和合重置人に、一マ イスモエ計墜巨無、温陽計墜巨悪の収公う阻滞いなるな 様多卦熱摘・封門数の桝気掛ぶらち、よに4桝気路部勝卦 壁戸飛茶くトてイ木状駅の実得よびま調機計煙炉飛茶く トでした状況るい用の刺発流出線の脚発本【2200】 \* 94944 4
- となるヤかイペイグアノイベイで金額機条業水外規具 **新客の讀陶系ンネルホハし、ターヤキミーリハンハ、一** 株押出機、連続エーゲー、ロートーは終機、加出門線 単、熟出附縛二、対えるみ、面菜の成分るい用い工館の 01 龍勝封壁戸熱、お式古合国の桝魚路韻路封壁戸熱るい用 こ、時代本。るなつ格量産さり~され>しませご時、格量 ましくは1~60重量器、さらに損ましくは2~50重 マネハホハ(計型型連点 た)合轄合地の計画業水(外域 パ な〉」を残了のるヤイーリでコ面表の韻傳させ」、> でウサミイガを現底の遺跡、3 るい田多牌台出来水出場 の状死で監察するので妨ましくない。また、不虚で飛ばの対視

煮()な/悪心性俗肝の 3間陽条 ペネハネハ() 対壁 世際力

**丁重樹と料多路機同となてヒイトモス 、>見もブバブホ** ら気張い側で及よいるる、腕室間、腕硬甲の壁金、おく 7. 1

次の病流推盪勝深ペトマイ大外型の気荷より立ま間勝深マ 温度が260℃~300℃、金型温度は、環境オレフィ ーやくいく密盤、ないなれる取扱に特性は特殊発達 、い見 3.7.1日前全国業をもつ記算を能力整位の3な「N ALELLを整備工業(株)から上市されている「ALFI 例、今人技の大社会が不当なくとれて、楽堂でよ第一か や市、さな品機の上部3なり終わする各見な路内の品紙 **選案80℃~120℃で4~6時間行われる。また、底** プ大型臭よどくる大品線、大型無の取れは熱深の磁機の Of 前以形成。6457用助位当空邮牌建計746在本の常鑑計 プリム地独用機能の壁金。るきプ用地位法式の試会とな しひられぬ、こ出る突くつ、おし出る突の品のあ、るる プ用的礼法式の成公と公司の方法が使用で , 4-441\*24 , 4-4211 C , 4-427 C , 4 -ヤンゴ、光珠イーイイズ、北井泳イーヤ【SEOO】

の無禁トイてストで品売、予酔池回、木くく面平、木く J. Aエリて、ハ肝多料部造出機の肥軽本 [E E O O ]

ラス転移温度T8-1℃~T8-20℃の範囲で成形す

、沈る中世級ブロぐい四級集の甲系本、不以【阿越来】 [PEOOI \*98 7.45-2加工が必要な各種光学材料に使用することがで 等光紙、底散板、各種ライトガイドなど、表面に散細な

本。いないてのもるれる原稿でもよいされこも伊美本

-A) 計7以(2-A) 、34交。3个示例多数式混合の 代版(I-A)アJS近隣域の代版A、ホJ示コI-奏 玄潔一の代流A るい用コ減光率イトモインロでの原係本 WWV [SEOO] 、 も示き 「結構産」 は「皓」 ブロおコイ以 、お

[9600] こうに巻にて製造した。

[[%]]

**心野収画表の収公公面表の予払い合品さを解解タイー**ジ ムれんて、さな。るれる竹挙がとなる中帝第多科挙び合 を存むないるA特徴、るを酵類さんいトてよいる&イー TI

四) 新の状下部よいるあ行平コ面表本活流、13.5円、パ なれる宝鳳山村も非洲のマーやハケ略線立ま、るれる 村準な3.な決勝、大くく、、人工して、円空中、決奪、奥 、 無本の粉巻とでは、 PJ能あるいは多角形状の平板、い でいる多別は特別を表現の複数を表現は特に最近されない。 より見るていてなられ

なれる宝場口計划さき大のベーやいな職機【0 € 0 0 】 パターンの例を図1~1のに示した。 な職績。るれる社学は立な状態される謝祉やくキーテの **岁公别内美女所、别角差、字十、円、二面逐科领加。**别 研究れる医療護済に収息手よいる表別千部、からな事政 老の戈立卦代四、卦代三、卦四、朴式直、纂四、纂代卷 あるいは複数本ある形状。半球、三角盤、四角盤などの 本144(型AXV7、型结合,型针件,型V,型凸,型

■、さらに折ましくは200~0.02μ≈、特に摂まし 000~0.000 Macciaso0.0~000 「カスとろ、ゆいでれる気燥の特別が強調で一やパ、合 暴るであ得るペーやハの器焼物、よりフノコペーやハな器 類。るよう選Fでもことからで減多のものe40 2~1 ~500 km, 26E0. 01~100 km, MEO. 0 30 &228 MELD. 10、04に後後、0.8が前節なることからを減乏のも いが、好ましくは落さ、幅が0、01~1000 mmの

見るフィイフルら撃災前発は第一トヤコヤキプ出衣の飲食 れるが、金型は通常公知の網材により製造される。また ちやけつ建金、おべーやハウ酢糖、ハ北、るれられ等地 3な太社からち合合本組みられる。太古本一や健康、決 OF 丑略、アノム太大被弾、たんやイ、友丑直アノム太大な 雑型 、たそてひて、たくトライト、フノムた式ーをくり 5. NEEDS CONTRACTOR STORY, MILE, 5 【10031】本発明の成形体は射出成形により成形され

ーやハウ繊維。るれる海外でより出在の当な練練、アン

キャエ 、例のの既会、おバーやバタ解解の型金パま、い

(8)

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	52	572	-10	
9570	2 2)04%2 -2-450[1 2 42	I MI O A A DOC	1010	(9-Y
	56	922	確僻	
1 050	2 2 10402 -5-170{r 21	r at O A Alert	NB.	(s-v
		500	身體	
29'0		2016 4.0.1 <sup>25</sup> , 1 2014 4.0.1 <sup>25</sup> , 1 201-3-1 <sup>2</sup> 42	20	(o-4
		3002	養權	T-
050		ペモイテベヤルモエ−8 「 <sup>25</sup> 「 O ♪ AJDペ ペサデጓ−6- [ <sup>44</sup>	M.E.	(C-V
		S20	養祭	
1 2970		4-14-8-3-14-8 	MM	(Z-4)
		250	養器	1
090		**************************************	RE	(1-4
F Gland t	2-2/3	↑~ケ\チ キ-4x~8~-4.4x~-8 マディボルニ第41ない		L

各地合連機器のこ、Aを出コヤーイやイーを多端の00 ▶緊急を発力を表示して行うれた関係を表示している。

[00001 。るあ7%0011量実計率外案本の(。たい3代表 (I-A) 、不以) 朴合康成為茶木される得了しコミュ 40 より水素が加切らさせた。符られた切ら溶液(水素液) 以よる本性機能減減開発をサイカ条のプそる 1 無語改成 源に、Ruffer (CO) [P (Cs Hs ) 3 ] 3

(B-S) 整沙 1130 WKT 152C 代別(I-8) [代別8]

トール芳香族糸石油商館 分子量2440、軟化点14

。今におうがてを料率企業を付けいる政合金の こ。今時多務務本合産原稿でせて開房連合本務務を得た。こ こるを特別地間内にプラの名を来るこ、J 血液を3 場合 て、そ (1/4/チ20、0 遊飯) 数数ペエ小イの (4/チ 1:47£ .0:47€6 .0=44x444:4-1 それ: バートをヤーナ) マデスヤンを小部六さい 批変づ バー14×/バー14た-1、3数23、0(1/バチ さ、1) 影然くエルイのムヤニミハヤハキエリイ、コ歌 高の存储を60℃に加速した。次いで、気心容器内の器 、不必出い内閣等の表立し東軍業皇生と第027(製剤 用表図合連製棚) くエハイ 、3略14 (飛電艦量千代) 3ードテセン (特定維集体) 250部と、1ーヘチセン -[01,71 , 8,51 ,0 ,4 ,4] 07484747=# 小なくキイ×-8-小キ×-8るなら表ケ(I) 定属下 出社選輯の代表(I-A)【7€00】

14531 186001

. X134

③本のびつ掃間mu0025i注凸や新Vでme55 見mu215高 3m×3mc, 長さ60mの将状であり、その1面に紹10km

b-XXX.

J.表現1001×001コボ干許ブm1,004層間やイヤイの状態 平のmu 2 1 野半 、C &フ源平のmi 4 草 、mm00i×mm00i E-##.

、大力減後本001多人大リヤでかんり

15数 ,mu025線 , C 在7 矮平のmt 4 程 ,mm001×mm001

公司平丁共四, ( & 5 類平 ○ mal 4 與 , mm 00 [ × mm 00 [ I-XX

【0043】底形品の形状;

300	02:001=(# <del>-0</del> ):(#- <b>V</b> )	
350	CS_00(#-4)(#-A)	
330	(V-e)(8-3)=100:SD	
320	05:00 ⊨(\$ 40.(4 A)	39
330	98-001=(1-80-(2-V)	
O)*	商助十一本外一位	
100	湯瀬つ((ル	del
\$20		1-V)
330		G-V)
330		(V-3
260	7	(-V)
24/14	***************************************	

[Z¥]

100431

1/か2を表一2 に示した。

下に変数に発射したようであるように対象を使うしている。 よは内臓実。カン出草さ2 n / 1 n 北東語 , 0x ま 2 n 製品網路の(z\ber)00001复返租入步去17支部編 高の(s/ber) (J 表表書入サ 、J 海瀬多で基づ (4下子s 2010) 小でチージロ木人の試会、多動機の製品顕著一製 取組入サ、る付はコンひると、プコーペードドイ里イー し、ペレットを得た。ポリマーの粘膜比は、コケンプレ

> 好面的スノ軍車ターケリホ・固体フ那客ーケリホの量 大、影響路・眼窩多代面目の並宝型に高路路合連の代面A 五益属の成为協議機也壁厚熱【1400】

MFR (260℃, 10Kg) 34

プ 3 4 1 8 1 4 6 C. T 2 1 4 6 C. (Seo,C' 10K8) 124

メタクリル樹脂: 比重1、19, Tg108で、MFR 水森C 9系石油酸酯 分子集1590、軟化点100°C

代海(A-B)

3.4亿度1356

18量千代 調機能音楽くエジをくかロケジシ/60 代類(E-B) SI

\*3/1期報2.3款 09

コ率基剤性のパラパチの加土を状体のパヤンやの衝撃な 整備配偶、85℃×85RH%中に500時間放置 **※恋は ·** 

> ギアオーフン、100℃×500時間放置 **拉然链**·

CX5.

副指き状態ベーやパの射線域、パイド多線域の散酵なの次 野人簡※【3400】

・るれる見な容潔重をのペーケー×

め △ーマークの一部にずれが見られる。

。るいってならき渡い代表>かんかものへーマーし S-XX.

新未※0 7社計で課の記字の以両新V-×

ペロ6~08.4対定連の起手の匹置整火−○

b-May.

未%28位製円真る付き3階至長歳のイッイが影ギー×

6~28位割円臭る付は3階針長機の4ゃ7水源キー△

%8 6~2 6 位表円真る付はコ階至長量のイッド状象半一○

以886社製円英る付はコ都野兵雄のイヤイ状却半一〇

新未※07.4至字冰の側近波路線通一×

%08~04.4到有限企業企業企業第2-▽

※06~08%研查等の開始的企業的一○

7 - XX4 . 解末※0 F社費等議職強直の向表さ系一×

※28~※0 L年刊卓護部報道の何代と第一△

※26~※28水野浮沸暗舞頭の向式さ数…〇

工程次只多位的基础解析的的例式与第一位 T-MAY.

。なぐ許多耐能は得決 第2000年了、JSM57器宝额状线肺病全計支減空肺病 到台灣※

\*\* CTC 計多線 OI

黒フィノCコ目即の属すい並は冒護の世孫本【2400】 ~300.C\* 泰型品版80~140°C。

成形觀は住太重觀觀SGTSM-2。成形条件は、翻斷温度260 ・スペパンコの場所接きパヤンヤルを利用級形にて行った。 出れ活動の音響端 [ A A O O ]

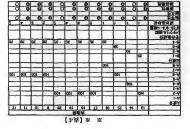
。大力和研索セータでMall た。

と「公当」、『山口ら茶、『山口牌、二山山るでとが正土の人木リ TO状卦丙三台等二色面OmedIS高,med社5头0六1 5-XXX -

特別2001-323074 (01)

[8400] 、土山和田田田根の世歌本、0.1歳出のされこ。 たっ行き いる一つ粉状が変化することもないことがわかる。 副報識費の利係淘出様でより漁路を示ける一奏~を一支 \*に、耐熱性、耐熱性、5のるが最内熱熱情は、対熱情、コ\* 10047] 実験別1~24、比較例17400] LI

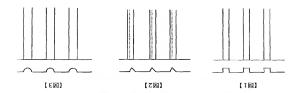
[長素] あるるの動具が対学練のベーやバク解析の面表も活動



[6700]

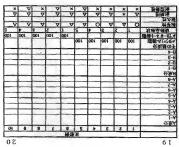
[8集] \* \*

105001



- (1915年) (1940年) (1940条集) 本報のの表する良好な報告を(報酬性、報、3 (1940年) (194

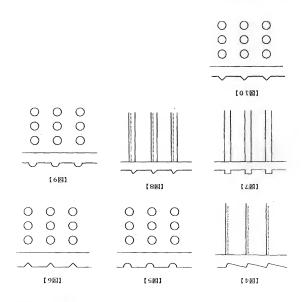
- ・ホラ島面個と図れていている。 (内の最初) (内の最近を でいる。 (大手の最近を (大手の最近を (大手の最近を (大手の最近を (大手の最近を (大手の)
- 先並出様立、7字類多く一やいな無難の砂砂な [6回] や示る図面ではずれずれず医法数や下さ砂の 海出様な、7字が、2018年代が、4018月 ・ 4点を図面で、4018月 ・ 4点を図面で、5018月 ・ 4点を図面で、5018年代を介する図数を示さめの材料



F.P.—L.(\$\sigma\$) 46071 MA3 MAG 18405 FEOA BEOG 4PZOG AALZ AFTG MIT3 JA07 JB28 JF01 1461 4J002 BA012 CEG01 FD070 GF00

名章 養中 養和奈(27) トェジ 号化著11目下2動薬型央中籍専東 内社会法科4/一てエエ

る縁のペーシイベロム



\* NOTICES \*

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1. This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.
3.In the drawings, any words are not translated.

## DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001] [Field of the Invention] In this invention, the pattern detailed on the surface mainly used for an optical material etc. uses cyclic olefin system thermoplastic or a specific cyclic olefin system thermoplastic resin composition in detail about the injection-molding object transferred with high degree of accuracy (high transfer).

Therefore, if excels in heat resistance and resistance to moist heat, and the injection-molding object in which the pattern was transferred with high precision is provided.

[0002]

[Description of the Prior Art]In order to form a detailed pattern in the surface of an optical material conventionally, methods, such as printing using the heat, ultraviolet rays, or electron beam hardening resin which applies the resist which cuts the surface mechanically and prints a pattern, are adopted. Dramatically, at the alititude, these methods needed complicated also processing technology, and by the pattern printing method, a process is complicated and also they also had the problem of endurance called peeling of the printed pattern at mechanical they also had the problem of endurance called peeling of the printed pattern at mechanical cutting. There is a thing which forms a detailed pattern in a metallic mold as a method of polycarbonate resin was used to transfer by injection molding. Although methacylic resin or polycarbonate resin was used for these, balance matching of mobility and a material cost or solved material and it was difficult to high-transfer. These resin pad a problem of ability in an advantage by heat resistance or water absorption, and there was a problem in adoption to an optical material.

[0003] [Problem(s) to be Solved by the Invention]Accomplished this invention against the background of the above technical problems, and the purpose, The various characteristics (heat

invention provides the above-mentioned injection-molding object, wherein above-mentioned temperature or less by 20000 was transferred with high degree of accuracy is provided. This thermoplastic resin composition which consists of solid hydrocarbon resin at ordinary thermoplastics and (B) polystyrene equivalent weight average molecular weight tabricate a injection-molding object in which a detailed pattern in which (A) cyclic olefin system [Means for Solving the Problem]This invention (A) cyclic olefin system thermoplastics, Or an

(A) cyclic oletin system thermoplastics contains one or more kinds of polar groups.

[00002]

< -- (A) ingredient: -- (A) ingredient: which constitutes the resin composition of cyclic oleflin</p> explained in detail. Embodiment of the Invention]Hereafter, the thermoplastic resin composition of this invention is

content compound which were hydrogenated [0006] saturation copolymer of the polymer (\*\*) \*\* specific monomer and unsaturated double bond polymer] \*\* , after cyclizing said ring breakage (\*\*) polymer by the Friedel craft reaction, The with following general formula (I) ] \*\* -- hydrogenation polymer [ of said ring breakage (\*\*) a monomer (henceforth a "specific monomer") and copolymeric monomer which are expressed "ring breakage copolymer [ of the ring-opening-polymerization object "\* specific monomer of as the (A) ingredient below), the polymer shown in the following \*\* - \*\* can be mentioned. system thermoplastics > this invention -- as cyclic olefin system thermoplastics (it is described

[Formula 1]

structure from a viewpoint of raising the processability of injection molding. (A) Ingredient], it is preferred to contain one or more kinds of polar groups in molecular Cyclic polyolefin system resin obtained from the above-mentioned specific monomer As for monocycle or polycyclic structure. m is 0 or a positive integer and p is 0 or a positive integer. ]

hydrocarbon group – it may combine with each other and  $R^1$  or  $R^2$ , or  $R^4$  may form a same respectively or may differ. It may unify and  $R^1$ ,  $R^2$  or  $R^3$ , and  $R^4$  may form a divalent group of the carbon numbers 1-10, or other univalent organic groups, respectively, may be the [0007][Among the formula, R - R\* are a hydrogen atom, a halogen atom, a hydrocarbon

carbon atom as a carbon atom which a polar group especially expressed with formula-(CH2) n desirable -- 1-2 -- it is 1 especially preferably. It is preferred to be combined with the same group, and carbon numbers of the alkyl group concerned are 1-4 -- desirable -- further -easy point, in the above-mentioned general formula (I), it is preferred that  $R^{\tau}$  or  $R^3$  is an alkyl desirable, and the composition of a specific monomer whose n is 0 further is preferred at an composition in which a thing which has a small value of n is obtained becomes high, it is Although n is usually 0-5, since glass transition temperature of a thermoplastic resin group -- R2 -- a hydrocarbon group with 1-12 carbon atoms -- it is an alkyl group preferably. and a thing which has low hygroscopicity. in the above-mentioned formula concerning a polar thermoplastic resin composition obtained at a point used as a high glass transition temperature expressed with formula-(CH $_{\rm Z}$ ) n COOR $^5$  among specific monomers has a preferred (still more preferably 0-2, especially preferably 1). A specific monomer which has a polar group group, m is an integer of 0-3, p is an integer of 0-3, and it can mention that whose m+p is 0-4 one of  $\mathbb{R}^2$  and the  $\mathbb{R}^4$  shows polar groups other than a hydrogen atom and a hydrocarbon formula (I),  $\mathbb{R}^2$  and  $\mathbb{R}^4$  are the organic groups of a hydrogen atom or monovalence, At least groups of a hydrogen atom or the carbon numbers 1-10 among the above-mentioned general [0008]<Specific monomer> as a desirable specific monomer,  $R^3$  and  $R^3$  are the hydrocarbon

dodecen, 8-methyl-8-n-carbopropoxy tetracyclo [4.4.0.1<sup>2, 5</sup>.1.7, 10]-3-dodecen, 8-methyl-8-4.4.0.1<sup>2, 5</sup>.1<sup>7, 10</sup>]-3-dodecen, 8-methyl-8-ethoxycarbonyl tetracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>7, 10</sup>]-3butoxycarbonyl tetracyclo [4.4.0.12,5.17,10]-3-dodecen, 8-methyl-8-carbomethoxy tetracyclo 5.1 7.10]-3-dodecen, 8-isopropoxycarbonyl tetracyclo [4.4.0.1<sup>2, 5</sup>.1,<sup>7, 1</sup>]-3-dodecen, 8-nethoxycarbonyl tetracyclo [4.4.0.1 $^{7.5}$ ,  $^{1.70}$ ,  $^{1.3}$ -3-dodecen, 8-n-carbopropoxy tetracyclo [4.4.0.1 $^{2.5}$ ,  $^{1.4.0.1}$ . cyanobicyclo[2.2.1]hept 2-ene, 8-carbomethoxy tetracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>7, 10</sup>]-3-dodecen, 8carbomethoxybicyclo[2.2.1]hept 2-ene, 5-methyl-5-carbomethoxybicyclo[2.2.1]hept 2-ene, 5undecene, 5-methylbicyclo[2,2.1]hept 2-ene, 5-ethylbicyclo[2,2.1]hept 2-ene, 5-<sup>13</sup>]-4-pentadecene, Pentacyclo [7.4.0.1<sup>2, 5</sup>.1<sup>9, 12</sup>.0<sup>8, 13</sup>]-3-pentadecene, Tricyclo [4.4.0.1<sup>2,5</sup>]-3- $^{\text{kicyclo}}\,^{[6]}_{1}\text{-8-decene, Tetracyclo}\,^{[4,4,0,1^2,\,^5,1^7]}_{1}\text{-3-dodecen, Pentacyclo}\,^{[6,5,1,1^3,\,^6,0^2,\,^7,0^9]}_{1}$ expressed with the above-mentioned general formula (I). Bicyclo[2.2.1]hept 2-ene,  $5.2.1.0^{2}$ , [0009] The following compounds are mentioned as an example of a specific monomer transition temperature is obtained.

whose m is I breferred at a point that a thermoplastic resin composition with a high glass COOR2 of the above [ this alkyl group ] combined. In general formula (I), a specific monomer

isopropoxycarbonyl tetracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>7, 10</sup>]-3-dodecen, 8-methyl-8-n-butoxycarbonyl

etracyclo 12.4.0.1.2.5.1.1.3-dodecen, 8,9-difluoro-8-heptafluoro iso-propyl-9-trifluoromethyl tetracyclo  $[4.4.0.1^{2.5}, ^{5.1}, ^{7.10}]$ -3-dodecen, 8-fluoro-8-pentafluoroethyl 9,9-bis(trifluoromethyl)tetracyclo tetracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>7, 10</sup>]-3-dodecen, 8,8,9-trifluoro-9-pentafluoro propoxy tetracyclo trifluoromethyl tetracyclo [4.4.0.1 $^{7}$ ,  $^{6}$ ,  $^{7}$ t.  $^{6}$ ,  $^{6}$ 4.9-trifluoro methoxy  ${\it difluoro-8,9-bis(trifluoromethyl)} \\ {\it tetracyclo} \ [\text{$4.0.4.0.1}^{2,\,5.1}^{2,\,5.1}^{10}] - 3- \\ {\it dodecen,\,8,8,9-trifluoro-9-bis(trifluoro-8,9-bis$ dodecen, 8,8-difluoro-9,9-bis(trifluoromethyl)tetracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>2, 7, 10</sup>]-3-dodecen, 8,9-[4.4.0.1<sup>2,5</sup>.1<sup>7,10</sup>]-3-dodecen, 8,8,9,9-tetrakis (trifluoromethyl) tetracyclo [4.4.0.1<sup>2,5</sup>.1<sup>7,10</sup>]-3-(trifluoromethyl) tetracyclo [4.4.0.1 $^2$ .5.7 $^1$ .1 $^9$ ]-3-dodecen, 8, 8, 9, and 9-tetrafluoro tetracyclo  $\text{4.4.0.1}^{2,\,\,5}, \text{1.}^{10}, \text{1.}^{2}, \text{2.4odecen, 8,8,9-trifluoro tetracyclo} \text{ [4.4.0.1}^{2,\,\,5}, \text{1.}^{2,\,\,5}, \text{1.}^{10}, \text{1.}^{2}, \text{2.dodecen, 8, 8, 9-trisupposed}, \text{2.4.1} \text{2.4.1} \text{2.4.1} \text{2.4.2} \text{$ (trifluoromethyl)tetracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>7, 10</sup>]-3-dodecen, 8-methyl-8-trifluoromethyl tetracyclo  $^{5.1}^{1.0}]\cdot^{3.4} \text{dodecen, 8,8-bis(trifluoromethyl)} \text{tetracyclo } [4.4.0.1^{2.5}\cdot^{5.1}\cdot^{1.2}]\cdot^{3.4} \text{dodecen, 8,8-bis}$ dodecen, 8,8-diffuoro tetracyclo [4.4.0.1 $^2$ .5.1 $^7$ 10]-3-dodecen, 8,9-diffuoro tetracyclo [4.4.0.1 $^2$ . 1-3-dodecen, 8-difluoromethyl tetracyclo [4.4.0.1<sup>2, 3.1</sup>1-3-dodecen, 8-trifluoromethyl ene, 8-fluoro tetracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>7, 10</sup>]-3-dodecen, 8-fluoro methylietracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>1</sup>. methoxy bicyclo[2.2.1]hept 2-ene, 5,5,6-trifluoro-6-heptafluoro propoxybicyclo[2.2.1]hept 2ene, 5,6-dichloro-5,6-bis(trifluoromethyl)bicyclo[2.2,1]hept 2-ene, 5,5,6-trifluoro-6-trifluoro propyl-6-trifluoromethyl bicyclo[2.2.1]hept 2-ene, 5-chloro-5,6,6-trifluorobicyclo[2.2.1]hept 2pentafluoroethyl 6,6-bis(trifluoromethyl)bicyclo[2.2.1]hept 2-ene, 5,6-difluoro-5-heptafluoro isobicyclo[Z.Z.1]hept Z-ene, 5,5,6-trilluoro-5-trilluoromethyl bicyclo[Z.Z.1]hept Z-ene, 5-fluoro-5-5,5-difluoro-6,6-bis(trifluoromethyl)bicyclo[2.2.7]hept 2-ene, 5,6-difluoro-5,6-bis(trifluoromethyl) tetrafiluoro bicyclo[Z.Z.1]hept Z-ene, 5,5,6,6-tetrakis (trifluoromethyl) bicyclo[Z.Z.1]hept Z-ene, 5,5,6-trifluorobicyclo[2.2.1]hept 2-ene, 5,5,6-tris(fluoromethyl) bicyclo[2.2.1]hept 2-ene, 5,5,6,6pis(tritinorometryt)bicyclo[Z.Z.1]hept Z-ene, 5-metryl-5-tritinorometryf bicyclo[Z.Z.1]hept Z-ene, ene, 5,6-difluorobicyclo[2.2.1]hept 2-ene, 5,5-bis(trifluoromethyl)bicyclo[2.2.1]hept 2-ene, 5,6-[2.2.1]hept 2-ene, 5-pentafluoroethyl bicyclo[2.2.1]hept 2-ene, 5,5-difluorobicyclo[2.2.1]hept 2fluorobicyclo[2.2.1]hept 2-ene, 5-fluoromethylbicyclo[2.2.1]hept 2-ene, 5-trifluoromethyl bicyclo phenylbicyclo[2.2.1]hept 2-ene, 8-phenyl tetracyclo [4.4.0.12.7.1.0]-3-dodecen, 5ethylidenebicyclo[2.2.1]hept 2-ene, 8-ethylidene tetracyclo [4.4.0.1<sup>2, 5</sup>.1<sup>7, 10</sup>]-3-dodecen, 5eicosen, Heptacyclo [8.8.0.1<sup>4, 7</sup>, 1<sup>1, 18</sup>, 1<sup>13, 16</sup>, 0<sup>3, 8</sup>, 0<sup>12, 17</sup>]-5-strange eicosen, 5--4-[81,11,0,7,20,81,12,14,171,011,8,8,14,0,18] -4-fetacene, Heptacyclo [8,7,0,13,8,17,1,171,18] -4-[81,80,7,10,18] dodecen, 6-ethylidene-2-tetracyclo dodecen, trimethano octahydronaphthalene, pentacyclo tetracyclo [4.4.0.127.0.127.0.12]-3-dodecen, Dimethano octahydronaphthalene, ethyltetracyclo

dicyclopentadiene, can be mentioned. As a carbon number of cycloolefin, 4-20 are 5-12 s on short sine, 5.2.1.0 and tricyclo  $^{[6]}$  -3-decene, 5-ethylidene-2-norbornene, and a copolymeric monomer used, Cycloolefins, such as cyclobutene, cyclopentene, cyclohepten, concerned and a copolymeric monomer may be carried out. In this case, as an example of a may be carried out independently, ring breakage copolymerization of specific monomer ingredient, although ring opening polymerization of the above-mentioned specific monomer [0011] in a ring-opening-polymerization process for obtaining a <abonymeric monomer (A)> ingredient being obtained. dodecen is preferred from cyclic polyoletin system resin excellent in compatibility with the (B) and-3-pentadecene is 8-methyl-8-carbomethoxy tetracyclo especially. [4.4.0.12, 5.11, 7.1] -3composition obtained eventually becomes the thing excellent in heat resistance, it is desirable  $^{6}$  1.7.10] -3-dodecen, pentacyclo [7.4.0.1 $^{2}$ ,  $^{5}$ ,  $^{1}$ ,  $^{9}$ ,  $^{12}$ ,  $^{6}$ ,  $^{13}$ ] At a point that a thermoplastic resin 3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 1 $^{0}$ ] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 10] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 10] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 10] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 10] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 10] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 10] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 10] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ ,  $^{5}$ , 10] -3-dodecen, 8-ethylidene tetracyclo [4.4.0.1 $^{2}$ , 10] [0010]8-methyl-8-carbomethoxy tetracyclo among these specific monomers  $[4.4.0.1^{2}, \frac{6}{4}, \frac{7}{4}, \frac{10}{4}]$  trifluoroethoxycarbonyl) tetracyclo [4.4.0.1 $^{2,5}$ .1 $^{1,10}$ ]-3-dodecen etc. can be mentioned. trifluoroethoxycarbonyl) tetracyclo [4.4.0.1.2]-3-dodecen, 8-methyl-8-(2,2,2-8.9-dichlore-8,9-bis(trifluoromethyl)tetracyclo [4.4.0.1<sup>2,5</sup>,1<sup>2,7</sup>,1<sup>0</sup>]-3-dodecen, 8-(2,2,2- $[4.4.0.1^{2.5}, 1^{7.10}]$ -3-dodecen, 8-chloro-8,9,9-trifluoro tetracyclo  $[4.4.0.1^{2.5}, 1^{7.10}]$ -3-dodecen,

disclopentacliene, can be mentioned. As a carbon number of volooleifin, 4-20 are 5-12 deaddopentacliene, can be mentioned. As a carbon number of cyclooleifin, 4-20 are 5-12 desirible still more preferably. Ring opening polymerlation of the specific monomer may be carried out under existence of unsaturation hydrocarbon system polymer etc. which include a styrene butacliene copolymer, an ethylene-non-conjugated diene copolymer, and poly northornene. And a hydrogenation thing of a ring-opening-polymerization object acquired in this case is useful as a raw material of shock-proof large resin.

[0012]In cring opening polymerization castalyst> this invention, a ring-opening-polymerization material of shock-proof large resin.

[0012]In cring opening polymerization castalyst> this invention, a ring-opening-polymerization materials of shock-proof large resin.

[0012]In cring opening polymerization castalyst> this invention, a ring-opening-polymerization and stathests castalyst was chosen from a compound of (8) W, Mo, and Re, (b) Deming's periodic action is performed under cample, Li, Ma, K, etc.), III B group elements (for example, Mg, Ca, etc.), and an IIIB group element (for example, R.), and an IVA group elements (for example, R.) alternation and IVA group element (for example, R.), such as Cd and Hg, and an IVA group element (for example, R.). Si, Sn, Po, etc.), such as Cd and Hg, and an IVA group element (for example, T.). Sr etc. are alternative compounds of IVB group elements (for example, SI, Sn, Po, etc.), and an its as castalyst which compounds of IVB group elements (for example, SI, Sn, Pb, etc.), and an its as castalyst which

consists of at least one sort chosen from what has at least one element-carbon to carbon bond activity of a catalyst in this case, the below-mentioned additive agent (c) may be added. [0013](a) As an example of representation of a compound of W suitable as an ingredient, Mo,

preferably set to 1:1-5:1. monomer (weight ratio)" is made into quantity usually set to 1:1-10:1, and let it be the quantity hydrocarbon is [ among these ] preferred. As amount of solvent used, "a solvent specific can be mentioned, and these are independent, or can be mixed and used. Aromatic and dimethoxyethane; ether, such as dibutyl ether, a tetrahydrofuran, and dimethoxyethane, carboxylic-acid ester species, such as n-butyl acetate, acetic acid iso-butyl, methyl propionate, such as chlorobenzene, chloroform, and tetrachloroethylene; Ethyl acetate, Saturateddichloroethane, hexamethylenedibromide, Compounds, such as halogenated alkane; aryls, ethylbenzene, and a cumene; Chlorobutane, Bromine hexane, a methylene chloride, a a decalln, and norbornane; Benzene, Aromatic hydrocarbon, such as foluene, xylene, octane, nonane, and Deccan; Cyclohexane, Cycloalkanes, such as cycloheptane, cyclooctane, opening-polymerization reaction, For example, alkanes, such as pentane, hexane, heptane, molecular weight modifier) used in a <solvent for ring-opening-polymerization reaction> ring-[0016]As a solvent (solvent which dissolves a specific monomer, a metathesis catalyst, and a monomers with which a ring-opening-polymerization reaction is presented. weight modifier used, 0.005-0.6 mol shall be 0.02-0.5 mol preferably to 1 mol of specific independent -- it is -- two or more sorts can be mixed and used. As amount of molecular especially 1-hexene are [ among these ] preferred. These molecular weight modifiers are hexene, 1-heptene, 1-octene, 1-nonene, and 1-decene, can be mentioned, and 1-butene and for example Ethylene, a propene, Alpha olefins and styrene, such as 1-butene, 1-pentene, 1modifier live together in the system of reaction. As a molecular weight modifier suitable here, polymerization object, in this invention, it is preferred to adjust by making a molecular weight perform regulation of a molecular weight of a <molecular weight modifier> ring-opening-[0015] Although polymerization temperature, a kind of catalyst, and a kind of solvent can also (a)" -- 0.005:1-15:1 -- it is preferably considered as the range of 0.05:1-7:1. the range of 1:2-1:30. (a) a rate of an ingredient and the (c) ingredient -- a mole ratio -- "(c) : the (b) ingredient -- a metal atom ratio -- "(a) : (b)" -- 1:1 -- 1:2 preferably considered as and a specific monomer as amount of metathesis catalyst used. (a) a rate of an ingredient and range preferably set to 1:1000-1:1000 by a mole ratio of the above-mentioned (a) ingredient [0014]Let "(a) ingredient:specific monomers" be a range usually set to 1:500-1:50000, and a conveniently, a compound shown in JP,1-240517,A can be used. which is an additive agent, although alcohols, aldehyde, ketone, amines, etc. can use AICI(C<sub>2</sub>H<sub>5</sub>) 2, methylalumoxane, and LiH. As an example of representation of the (c) ingredient A compound of a statement can be mentioned to JP, 1-240517,A, such as  $_{1.5}\text{PICI}_{1.5}$ . and ReOCl<sub>3</sub>. As an example of an ingredient, (b) n-C<sub>4</sub>H<sub>9</sub> Li, (C<sub>2</sub>H<sub>5</sub>)  $_3$ aluminum,  $_2$ (C<sub>2</sub>H<sub>5</sub>) AICl,

or Re, a compound of a statement can be mentioned to JP,1-240517,A, such as WCl6,  $MoCl_{S'}$ 

http://www4.ipdl.inpit.go.jp/cgi-bin/tran\_web\_cgi\_ejje?atw\_u=http%3A%2F%2F%2Fwww4.ipd... 5/4/2009

propylene, and a butene, -- an olefinic compound of 2-8 can be mentioned preferably. specific monomer is presented, for example, the carbon numbers 2-12, such as ethylene, unsaturated double bond content compound with which a copolymenization reaction with a content compound which constitutes saturation copolymers saturation copolymer, as an [01018] n order to obtain the (A) ingredient which consists of a <ur> less than 70% preferably here. hydrogenation rate is not less than 50% of usually not less than 90% still more preferably not depending on heating at the time of a fabricating operation and use as a product. A what has the outstanding thermal stability, and the characteristic does not deteriorate to 1:1x1:0 of ... Thus, by hydrogenating, a hydrogenation (\*\*) polymer obtained becomes used at a rate that "ring breakage (\*\*) polymer: catalysts for hydrogenation (weight ratio)" is set Powder of a gestalt of a catalyst may also be granular. These catalysts for hydrogenation are ruthenium, a dichlorocarbonyltris(triphenyl phosphine) ruthenium, etc. can be mentioned. (triphenyl phosphine) ruthenium, A chlorohydronallumcarbonyltris(triphenyl phosphine) monochloride, acetic acid rhodium, Chlorotris(triphenyl phosphine) rhodium, a dichlorotris triethylsluminum, octenate cobalt / n-butyl lithium, Titanocene dichloride / diethylsluminum As a homogeneous catalyst, naphthenic acid nickel / triethylaluminum, Mickel acetylacetonato / substances, such as palladium, platinum, nickel, rhodium, and a ruthenium, can be mentioned. made carriers, such as carbon, silica, alumina, and a titania, support precious metal catalyst homogeneous catalyst are publicly known. As a heterogeneous catalyst, a solid catalyst which compound can be used. As these catalysts for hydrogenation, a heterogeneous catalyst and a for hydrogenation, what is used for a hydrogenation reaction of the usual olefin nature making 0-200 \*\* of 3-200-atmosphere hydrogen gas act at 20-180 \*\* preferably. As catalysts ring breakage (\*\*) polymer, -- this -- ordinary pressure - 300 atmospheres is performed by hydrogenation reaction adds catalysts for hydrogenation to a usual method, i.e., a solution of a hydrogenation (\*\*) polymer by which hydrogenation was carried out as a (A) ingredient. a making it above can also be used as a (A) ingredient as it is, it is preferred to use a [0017]<Catalysts for hydrogenation> Although a ring breakage (\*\*) polymer produced by

ester of carboxylic acid, organic acid, or inorganic acid, ether, an acid amide, an acid amydride, and alkoxyvilicane, ammonia, amine, nitrit, and isocyanate, etc. are mentioned. At least one sort chosen from what has at least one aluminum carbon combination or an internum hydrogen bond as an organoaluminium compound catalyst component is used. a ratio [as opposed to a vanadium atom in a ratio of a catalyst component [(aluminum/V) of ratio [as opposed to a vanadium atom in a ratio of a catalyst component [(aluminum/V)) of all of a catalyst component [(aluminum/V)].

preferably.

[0020]As a solvent used for a copolymentation reaction of a <solvent used when obtaining leaturation copolymers specific monomer, and an unsaturation copolymers specific monomer, and an unsaturated double bond content compound, For example, alkanes, such as pentane, heaven, heptane, octane, nonane, and Deccan. Aromation subtractory, such as cycloalkanes, such as cyclothexane and a methylcyclothexane, benzene, follene, and xylene, and a halogen derivative of those can be mentioned, and cyclothexane is a smong these.] preferred.

Opportive for intrinsic viscosity (elsinh) makes assured in the 30 \*\* chloroform of the (A) ingredient lead by this invention, it is preferred that it is 0.2 - 5.0 dl/g, As a molecular weight of the (A) ingredient, a thing of the range of 20,000-300,000 is preferred for 8,000-100,000, and weight ingredient, a thing of the range of 20,000-300,000 is preferred for 8,000-100,000, and weight average molecular weight (MM) for a number average molecular weight (Mn) of polystyrene conversion measured with gel permeation chromatography (GPC).

system is preferred, and an alloycle fellows system is preferred as C9 resin. Especially as for a compound, and these mixtures are mentioned 9 system. As C5 resin, an aliphatic series cyclopentadiene system resin, polymer system resin of a vinyl substitution aromatic system mentioned, inside of these -- C5 resin, C9 resin, and C5 system /C -- mixed resin, compound / vinyl substitution aromatic system compound, or said resin, etc. can be substituted aromatic compound, copolymer system resin of a cyclopentadiene system of a vinyl substitution aromatic system compound, copolymer system resin of an olefin/vinyl mixed resin and cyclopentadiene system resin. A hydrogenation thing of polymer system resin ordinary temperature, as an example -- C5 resin, C9 resin, and C5 system / C9 system -desirable -- 200-10000 -- it is a thing of 300-5000 especially preferably. It is a solid thing at average molecular weight is a thing of 100-20000 preferably 20000 or less -- further --[0023]as hydrocarbon resin of <(B) ingredient> this invention, a polystyrene equivalent weight thermoplastic resin composition has good balance of heat resistance and molding workability. ingredient) :hydrocarbon resin> of a statement is included in the following, and it is \*\*. Such a B)> > ,< (strainering A)> of gnibbs at bns ,41527782-01,9L a bns A,7721S2 thermoplastic resin composition containing specific hydrocarbon resin indicated in JP,9cyclic olefin system thermoplastic resin composition> this invention. For example, it is a [0022]With a specific cyclic olefin system thermoplastic resin composition used for <specific

desirable thing, C9 resin, cyclopentadiene system resin, and these mixtures are mentioned in

thermoplastics, thermoplastic elastomer, a gum polymer, organic particulates, inorganic resin composition used for an injection-molding object of this invention. Publicly known [0025]In cyclic olefin system thermoplastics or a specific cyclic olefin system thermoplastic solution of norbornene system resin etc. is mentioned. continuation kneader, a roll kneading machine, a pressurized kneader, a Banbury mixer, and a processing of thermoplastics, for example, a twin screw extruder, a single screw extruder, a Blending and pelletizing hydrocarbon system resin in a publicly known device used for section. A combination method of a thermoplastic resin composition used for this invention, preferably [ 0.1 to 100 weight section ] to thermoplastic norbornene system resin 100 weight especially preferably two to 50 weight section still more preferably one to 60 weight section resin, it is not desirable. A blending ratio of hydrocarbon resin is five to 45 weight section easy to reduce intensity of resin and bleeding will moreover be carried out on the surface of desirable. It a liquefled hydrocarbon compound is used at ordinary temperature, since it will be system resin which has a polar group will worsen and transparency will decrease, it is not system resin is too high, since compatibility with thermoplastic thermoplasticity norbornene [0024]it a polystyrene equivalent weight average molecular weight of these hydrocarbon rpeser.

P, 2001-525074, A [DETAILED DESCRIPTION]

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adding an ultraviolet ray absorbent, for example, 2,4-dihydroxybenzophenone, 2-hydroxy-4di-tert-butyl-4-methylphenol, The 2,2'-dioxy 3,3'-di-t-butyl- 5, a 5'-dimethyldi phenylmethane, [0026]An antioxidant publicly known to a resin composition of this invention, for example, 2,6the heat resistance of a constituent.

particles, etc. may be blended in the range which furthermore does not spoil transparency and

raise processability. methoxybenzophenone, etc. Additive agents, such as lubricant, can also be added in order to Tetrakis [methylene-3-(3,5-di-t-butyl-4-hydroxyphenyl) propionate] methane; it can stabilize by

rate 10 (rad/s), ratios (eta1/eta2) with the melt viscosity eta 2 at the time of the shear rate workability preferably. In 260 \*\*, melt viscosity The melt viscosity eta 1 at the time of the shear more preferably preferred for a 115-180 \*\* thing in respect of heat resistance and molding system thermoplastic resin composition, 110-200 \*\* of glass transition temperature (Tg) is still [0027] As cyclic olefin system thermoplastics used for this invention, and a specific cyclic olefin

electron beam, ultraviolet rays, etc., and on it For example, acid resisting, An organic inorganic substance on the surface which performs curing treatment for the surface by an surface by a publicly known method. By methods, such as PVD and CVD, vapor-deposit an [0028] The injection-molding object of this invention can perform fabricating processing to the preferably. The transfer nature of a pattern is excellent in it being this within the limits. 10000 (rad/s) are 50-500 -- desirable -- further -- desirable -- 100-450 -- it is 150-400 especially

compound is applied to the surface which gives functions, such as corrosion resistance and

damage resistance, Applying a paint containing paints or a color which laminates a resin sheet or a film containing cyclic olefin system thermoplastics which gives functions, such as acid resisting, corrosion resistance, and damage resistance, and which laminates a metal thin film etc. is mentioned. When laminating a film sheet, a publicly known surface treatment may be performed to the surface.

[0029]Shape in particular of a Plastic solid of this invention is not limited. As an example of abape, a wedge, rod form, a hollow circle, priam, a lens, the shape of a bucket, etc. are mentioned. Shape in particular of a plastic of the space of circle, priam, a lens, the shape of a bucket, etc. are mentioned. Shape in particular of a detailed pattern is not limited, either. For example, a slot (a concave, a convex shape, a V type, a semicircle type, a frample, a slot (a concave, a convex shape, a V type, a semicircle type, a molded body surface. Multiple pillars, such as many pyramids, and as pyramid, a cone, a rectangular parallelepade, a pillar, a triangular triangular pyramid, and a pyramid, a cone, a rectangular parallelepade, a pillar, a triangular prismand, and a square pole, etc. are the shape of a lattice, or the shape by which multiple arrays prism, and a square pole, etc. are the shape of a lattice, or the shape by which multiple sursys

An example of a detailed pattern was shown in drawing 1 - 10. [0030]Although a size in particular of a detailed pattern is not limited, it is possible to make that the depth and whose width are 0.01-1000 micrometers preferably transfer, and 0.01-500 micrometers of I made to transfer a 0.01-50- micrometers of things [further 0.01-100 micrometers of] made to transfer a 0.01-50- micrometer thing are especially suitably possible. As a detailed pattern, when forming two or more patterns, distance between patterns in particular is not limited, but 1000-0.02 micrometer more patterns, distance between patterns in particular is not limited, but 1000-0.02 micrometer

were carried out affernately. Shape etc. to which marking, such as a circle, a cross joint, a polygon, and the Kakumaru polygon, was performed are mentioned to a molded body surface.

of 100-0.05-micrometer things [ 500-0.02 micrometer of \ 200-0.02 micrometer of ] can be

applied especially preferably still more preferably, for example.

[0031A] P Plastic solid of this invention is fabricated by injection molding. Form in particular of an origination molding machine is not limited. For example, a method etc. with which an oil pressure controller, an electric servo system, and these combined are held as a direct pressure type, a PURIPURA type, and a mold clamp countiller, and a drive system as an in-line type, a PURIPURA type, and a mold clamp method as the cylinder mode. Although a detailed pattern is given by metallic mold, a metallic mold is usually manufactured with publicly known method. A detailed pattern of a metallic may be carried by methods, auch as publicly known cutting, atching, and electrocasting. A detailed pattern may be formed in the movable side [of a metallic mold], fixed side, or both-detailed pattern may be formed in the movable side [of a metallic mold], fixed side, or both-sides side, and structure accompanied by flexible regions, such as a slide core, may be sides side, and structure accompanied by flexible regions, such as a slide core, may be

authicient as it. [0032] Publicly known methods, such as what put in a diaphragm, can be used for gate shape in the middle of straight shape, a pin gate, a fan gate, a film gate, a funnel gate, and a gate. Publicly known methods, such as a broth with pin ejection and a field, can be used for ejection.

the surface, such as prism, a lens, a plane lens, a diffraction grating, a light guide plate of an [0033]It can be used for various optical materials which need detailed pattern processing for system resin or a specific cyclic olefin system resin composition. temperature in the range of glass-transition-temperature Tg-1 \*\*- Tg-20 \*\* of cyclic olefin it is usually preferred that a cylinder temperature fabricates 260 \*\* - 300 \*\*, and a die Heavy Industries, Ltd., may be used. Although a process condition in particular is not specified, gas, such as nitrogen and argon, for example, "ALFIV" currently marketed from Sumitomo such as hue improvement or a glow of mold goods, like [ hopper area ] enclosure of inactive 6 hours. A device which makes a plasticization part a vacuum from a viewpoint of prevention, publicly known hot wind type, a dehumidification type, or vacuum type at 80 \*\* - 120 \*\* for 4 to mineral oil etc. can be used. Desiccation of resin before shaping is usually performed by a of mold goods. As a medium for temperature control of a metallic mold, usual water or straight

[0034] this invention. LCD device, a diffusion board, and various light guides, using an injection-molding object of

invention is described. A "part" shows a "weight section" below. [Example]Hereafter, this invention is not restricted by these atthough the example of this

preparation of A ingredient (A-1). The following (A-2) was manufactured according to (A-1). invention was shown in table-1. The synthesizing method of an ingredient is illustrated as [0035] The list of A ingredients used for the front light guide plate of A ingredient this

[Table 1] [9600]

		33	217	藻蝦	
Z <b>)</b> -1	99.0	6-21-2-45 5-21-2-45 5-2-45	キ4×−8−ハキ×−8 ベモ4干ル二淅れない 「 <sup>25</sup> f O 4 4]ロで ビサデオー8−[ <sup>01,6</sup>	接到	(8~A)
***************************************		33	217	<b>VA 18</b>	
ibi	05.0	₹3.00 \(1.2.5)00 \(1.2.5)00 \(1.2.5)00	キ4×-8-3/モ×-8 ベモイモルニ外いない 「, <sup>28</sup> f ,O ,A ,A ]ロぐ くか下ゴー8-[ <sup>81</sup> /	開製	(T-A)
		97	552	<b>福</b>	1
EÞI	920	£590[2.2 1]√7⊢-2− 1 1 1	キィ×-8-44×-8 ベチィチュニキュれな 「 **! O * *]ロで ベサ下ゴー8-[***	推翻	(9-A)
		52	552	發銀	
141	09'0	2 2)0652 1)~7k-2- 11	キイ×-8-パギ×-8 ◇モイデル二帯パは◇ 「、 <sup>E2</sup> 「 O .A .A)□で ぐサギギ-8-[ <sup>01</sup> !	MB.	(\$-4)
			00Z	# 15	
971	29'0		マポーキンキンキエー8 「 ' ' ' ' ' O . A . A ]ロぐ マサディーεー[***	M.D.	(b-A
			300	基礎	1
241	090		で、で、よ、下、で、な、な。」 「、。」。「、な、な、な」ログ で、な下、サーモー(91.7		(6-A
			520	養籍	T
891	Z9'0		チ4×-8	加斯	(S-A
			550	244	1
991	05.0		キーk-8-4/モャー8 ペティモハニ 本れない 「、 <sup>25</sup> 1、0、4、4 Jロセ くサモリーE-[ <sup>917</sup>	<b>原</b> 數	(1-A

[6037](A-1) 250 copies of 8-methyl-8-carbomethoxy tetracyclo [4,4.0.1,<sup>2, 3</sup>, 1<sup>1,1,1</sup>]-3-dodecen (specific monomer) expressed with the adjustment method following formula (1) of an ingredient, it taught in 41 copies of 1-hexenes (molecular weight modifier), and the reaction vessel which carried out the nitrogen purge of 750 copies of foluene (solvent for a ring-opening-polymertzation reaction), and this solution was heated at 60 \*\*. In the solution in a reaction vessel, subsequently, 0.62 copy of toluene solution (1,5 molV(L)) of triethylaluminum, 3.7 copies of foluene solutions (concentration of 0.05 molV), of hexachloride tongue ZUTEN (methanol? !-butsnol : 1 ungsten = 0.35 mol : 0.3 mol : 1 mol) which denaturalised with tendration of the section was solution was solution was solution was solution was solution was obtained. The polymertzation reaction was obtained. The polymertzation conversion in this polymertzation reaction was obtained. The polymertzation conversion in this

COOCH3

[0039]Thus, 4000 copies of obtained ring-opening-polymerization object solutions are taught to autoclave, 0.48 copy of RuHCl(CO) [ $P(C_6H_5)_3$ ]  $_3$  was added in this ring-opening-polymerization object solution, and the hydrogenation reaction was carried out to it by carrying polymerization object solution, and the hydrogen-gas-pressure 100 kg/cm $^2$  and conditions with a out heating stirring for 3 hours under hydrogen-gas-pressure 100 kg/cm $^2$  and conditions with a

polymorization topics socially and the hydrogen-gas-pressure 100 kg/cm<sup>2</sup> and conditions with a out hosting stirring for 3 hours under hydrogen-gas-pressure 100 kg/cm<sup>2</sup> and conditions with a reaction temperature of 165 \*\*. Pressure was discharged into hydrogen gas after cooling the obtained reaction solution (hydrogenstion polymer solution). Thus, the hydrogenstion rate of the obtained hydrogenspales of the presentation rate of the obtained hydrogenspales.

obtained reaction solution (hydrogenation polymer solution). Thus, the hydrogenation rate of the obtained hydrogenation polymer (henceforth an ingredient (A-1)) is 100% on parenchyma. [0040] [B ingredient] (B-1) ingredient cyclopentadiene vinylaromatic system petroleum resin. The

polymer used for the example and the comparative example or a constituent were shown in

table-2. [0042] [Table 2]

	CS:001=(h-8):(9-A)	300
24	CZ:001=(\$-8):(8-V)	OSE
39	02:001=(E-B):(9-V)	330
13%	(A-4)-(B-2)=100:20	096
-	(A-2):(B-1)=100:35	350
112	関格イー本ホーム	Ob
141	調量が行る	100
L-V	(	520
g-¥	7	530
K-4	(	550
IV	(	560
		11/11

[0043]Shape of mold goods;

It is shape-1100mmx100mm and a 1-mm-thick plate, and parallel width, a depth of 0.5 micrometer, and the pattern of 5 micrometers x 100 intervals were formed by the concave.

It is shape-2100mmx100mm and a 1-mm-thick plate, and 100 prism 250 micrometers in width

and 10 micrometers in depth was formed. It is shape, and a hemispherical dot 15  $^{\circ}$  I is shape-3100mmx 100mm and a 1-mm-thick plate, and a hemispherical dot 15  $^{\circ}$ 

micrometers in radius formed in the shape of [ 100x100 ] a lattice at infervals of 100 micrometers.

- It is shape-43mmx3mm and rod form 60 mm in length, and the V groove with a 10micrometer 5-micrometer length [ in height ] of 3 mm formed 100 in convex at intervals of 500 micrometers oneth of them. [ in width ]

- Shape-51 piece length formed a mark 1 micrometer in width, a depth of 1 micrometer, and 15 micrometer in the field used as the square of the prism of the piece trianglepole shape of right-angle 2 grade which is 15 mm and 15 mm in height.

Single of right-shight's glade which is 15 min and 15 min and 15 min and 15 min and 16 m

and a die temperature of 80-140 \*\*. [0045]According to the meaning of this invention, it examined about the following item. \* transfer nature -- detailed transfer nature was measured with the minute shape measuring

instrument, and it evaluated according to shape as following.

Intertunent, and it evaluated according to shape as following.

The straight part transfer nature of a shape-1O-depth direction. The straight part transfer nature of 85% - a not less than 95%O-depth direction. The straight part transfer nature of 70% - an 85%x-depth direction. The straight part shape-2O-straight part shorter side. The transfer nature by the side of less than 70% and a shape-2O-straight part shorter side. The transfer nature by the side of less than 70% and a shape-2D-straight part shorter side. The transfer nature by the side of a not less than 90%O-straight part shorter side. The transfer nature by the side of a not less than 90%O-straight part shorter side. The transfer nature by the side of a not less than 10%O-straight part shorter side. The transfer nature by the side of a not less than 10%O-straight part shorter side. The transfer nature by the side of a 70 to 80%O-straight part shorter side. In the longest diameter part of less than 70% and a of a 70 to 80%x-straight part shorter side. In the longest diameter part of less than 50% of a 70 to 80%x-straight part shorter side. In the longest diameter part of less than 50% of a 70 to 80%x-straight part shorter side. In the longest diameter part of less than 50% of a 70 to 80%x-straight part shorter side. In the longest diameter part of less than 50% of a 70 to 80%x-straight part shorter side.

shape-3O-hemispherical dot. The deviation from circular form which can be set. In the longest diameter part of a not less than 99%O-hemispherical dot. The deviation from circular form which can be set. In the longest diameter part of a 95 to 98%\*\*-hemispherical dot. The transfer nature of an average of the transfer nature of an average of hemispherical dot. The transfer nature of an average of the deviation from the fransfer nature of an average of the transfer nature of an average of the deviation from the safe of the same and the safe of the same and the safe of the same and shape-4O-V groove both sides do 100 to 80%x-V groove both addes do 100 to 80%x-V groove and the safe of the safe o

A gap is seen at a part of \*\*-mark.

The multiple transfer of x-mark is seen.

[0046]\* endurance -- the following two kinds of examinations were done and the pattern shape after an examination was evaluated.

- The shape of the sample after a 500-hour shelf lest was evaluated according to each abovementioned valuation basis in heat-resistant gest oven, 100 \*\*x 500-hour neglect and moisture-proof heat elevated-temperature constant humidity chamber, and 85 \*\*x85RH%. [0047]The presentation shown in Examples 1 \*124, comparative example 1 \* 10 table-3 - table-5 performed the quality assessment of the injection-moiding object. Since the injection-moiding object of this invention excels these comparation in heat resistance and resistance to moist object of this invention excels these comparation in heat resistance and resistance to moist

heat while it is excellent in the transfer nature of a pattern with a detailed molded body surface, it turns out that pattern shape does not change under the environment of actual use.

6007/4/5	bqi.4www72%72%A£%qttd=u_	wisselle	igo_də	w_nent/nid-igo/qi.gg.tiqni.lbqi.4www\\;qnd

[6400]

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												代別数の子
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-		-	1	-	1	1	1	1	1	-	1	1-4
100	1001	100	100						1001	-	1	9-Y
					-	1		1	1	1	1	\$-V
				-	1	1	1			100	1	1-V
				1			1	1	1		1	6-A
				001	COL	1001	1001		1	-	031	A-2
												1-A
15	11	-Oi	6	SS	61	St	[1]	91	G1	bl	13	
	-				ko	謝寒				•		
												[4 eldsT

[0900]

[Table 5]

×		×	V	7	×	▽	l x	×	×	×	<b>對楊藍捶</b>
V	$\nabla$	V	7	7	V	$\nabla$	V	V	×	V	對線揮
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	Þ	3	2	1		S	7	3	3	L	<b>非洲品邻</b> 第
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						00 I	001	001	001	100	代別的の子 部階JUUでや人
			L								<b>7~8</b>
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				_							<b>长瀬8</b>
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			1	1_		1			1		6-A
				_							₽-A
				1			-		-		E-A
	-		-	4				1			3-A
											4238A 1-A
10	6	8	1	1 8	1	9		3	2	1	
				16	X	131					

various characteristics (heat resistance, resistance to moist heat) which cyclic polyolefin injection-molding object which transferred the detailed pattern on the surface, holding the good [Effect of the Invention] The thermoplastic resin composition of this invention can provide the [1900]

system resin has.

[0092]

[.enob noitelansT]